

REMARKS

In response to the above-identified Office Action (hereinafter “Action”), Applicants traverse Examiner’s rejection to the claims and seeks reconsideration thereof. In the instant response, claims 2, 6, and 10 are amended. Claims 13-25 are added. No claims are cancelled. Thus, claims 1-25 are now pending in the present application.

The instant application is directed to generating and consuming a three-dimensional audio scene with a sound source whose spatiality is extended. The present invention enhances the sense of reality of a three-dimensional audio scene, at least by providing a sound source of more than one dimension.

I. Amendments to the Claims

Applicants have amended claims 2, 6, and 10, and added claims 13-25 to more particularly point out what Applicants regard as the invention. Support for the amendments and new claims may be found in the original specification.

In particular, claims 13-15 are dependent from amended claims 2, 6, and 10, respectively, and include elements of original claims 2, 6, and 10, respectively.

New independent claim 16 includes some elements of claim 1, as well as “coding the sound object and the three-dimensional audio scene description information including the sound source characteristics information of the sound object.” New independent claim 21 includes some elements of claim 5, as well as “decoding a sound object and three-dimensional audio scene description information including sound source characteristics information for the sound object.” Support for these new elements in claims 16 and 21 may be found in the specification at page 8, line 25 to page 9, line 17.

New claims 17-20 and 22-25 are dependent from claims 16 and 21, respectively. The elements of these new dependent claims parallel the elements of the original dependent claims and new dependent claims 13-15.

Thus, the submitted claim amendments introduce no new matter.

II. Amendments to the Specification

Applicants have amended the specification with minor editorial corrections and language clarifications. Applicants have also amended the specification to more clearly reflect relevant portions of the newly added claims, the support for which may be found in the original specification. In particular, deleted portions are followed immediately by the new portions which contain the same disclosure but are rewritten for clarity. Further, Applicants have amended the background art section to add known prior art information as an aid to understanding the present invention. Thus, these amendments introduce no new matter.

Both clean and marked up versions of the specification are submitted herewith per CFR 1.125.

III. Amendments to the Abstract

Applicants have amended the abstract to more clearly reflect relevant portions of the newly added claims, the support for which may be found in the original specification as described above. These amendments introduce no new matter.

IV. Claim Rejections – 35 U.S.C. §102

In the outstanding Action, claims 1-12 stand rejected under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 6,330,486 issued to Padula (hereinafter “Padula”). Applicants respectfully traverse the rejections for at least the following reasons.

To establish anticipation, Examiner must show that the cited reference teaches each of the elements of a claim. Claim 1 teaches “a method for generating a three-dimensional audio scene with a sound source whose spatiality is extended.” Examiner cites Padula at col. 3, lines 31-33 for “a method for generating a three-dimensional audio scene.” On the contrary, Padula does not disclose a method for generating an audio scene that is three-dimensional, but instead discloses a method for positioning an audio source in a three-dimensional virtual environment (col. 3, lines 24-33). Examiner also implies that the condition of “a sound source whose spatiality is extended” is equivalent to that of a sound source that is “movable” (Action, p. 2). On the contrary, the extending of spatiality refers to describing the spatiality of the sound source so as to

result in a sound source of more than one dimension (Application, p. 2, lines 28-30), and focuses on the size and shape of the sound source to be expressed (Application, p. 2, lines 24-25). Moreover, Padula purports to provide a technique “independent of the particular audio source modeling techniques” (col. 3, lines 27-33), and thus in fact teaches away from changing the form of the sound source itself.

Further, claim 1 teaches “generating a sound object.” Contrary to what Examiner has indicated, Padula does not teach “generating a sound object.” Instead, at block 72 as referenced by Examiner, Padula teaches the identifying of the field of view (or viewpoint) of a virtual camera (col. 8, lines 1-5; and Fig. 4).

Examiner cites Padula at blocks 73-79 for teaching “generating three-dimensional audio scene description information including sound source characteristics information for the sound object.” Applicants respectfully disagree. As explained above, Padula discloses a technique for *positioning* audio sources so as to “obtain[] a visually consistent acoustic perspective that compensates for distortions in apparent audio source *location*” (emphasis added) (col. 3, lines 27-30). Hence, blocks 73-79 begin with “determine[ing] user field of view” and end with “output[ting] acoustic perspective.” These blocks constitute a part of a process used to determine the “difference between the virtual camera field of view and the user’s field of view” so as to then provide warped *locations* of audio sources to a rendering machine (col. 3, lines 67 to col. 4, lines 1-6). Padula thus teaches nothing in regard to the actual sound source characteristics information for a sound object.

Further, Examiner cites col. 3, lines 46-49 for teaching “sound source characteristics information [that] includes spatiality extension information of the sound source which is information on the size and shape of the sound source expressed in a three-dimensional space.” Applicants respectfully submit that this Examiner’s assertion is based on a misunderstanding of the cited language. The paragraph in which the language is cited describes a virtual world data structure and provides examples of object characteristics including “shape, size and location.” The objects referred to, however, may be any of various visual or aural objects. For example, a three-dimensional object such as a Sphere node may be defined with characteristics including the shape, size, and location of the sphere (col. 1, lines 39-45). Thus, col. 3, lines 46-49 in no way

discloses sound source characteristics including spatiality extension information of a sound source in particular. In fact, the paragraph of the cited language goes on to explain that the *location* of a Sound node may be defined by its coordinates in a three-dimensional coordinate system (col. 3, lines 49-52), without mentioning shape or size. This further emphasizes that the cited reference does not teach or even suggest “sound source characteristics information [that] includes spatiality extension information of the sound source which is information on the size and shape of the sound source expressed in a three-dimensional space” (emphasis added).

Thus, claim 1 is not anticipated by the cited reference. Accordingly, reconsideration and withdrawal of the anticipation rejection of this claim are requested.

Independent claims 5 and 9 include elements similar to those in claim 1. For at least reasons analogous to those described above as to claim 1, claims 5 and 9 are not anticipated by Padula. Accordingly, reconsideration and withdrawal of the anticipation rejection of these claims are requested.

In regard to claims 2-4, 6-8, and 10-12, these claims depend from independent claims 1, 5, and 9, respectively, and incorporate the limitations thereof. Thus, at least for the reasons mentioned above in regard to the independent claim, these claims are not anticipated by the cited reference. Accordingly, reconsideration and withdrawal of the anticipation rejection of these claims are requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely claims 1-25, are in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. Questions regarding this matter should be directed to the undersigned at (310) 207-3800.

Respectfully submitted,

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By: _____

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I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage on the date below, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450.

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11/03/2006
Date